(No Model.)

J. F. FORSYTH.

DRILL CLAMP.

No. 536,867. Patented Apr. 2, 1895.

Fig. 1.

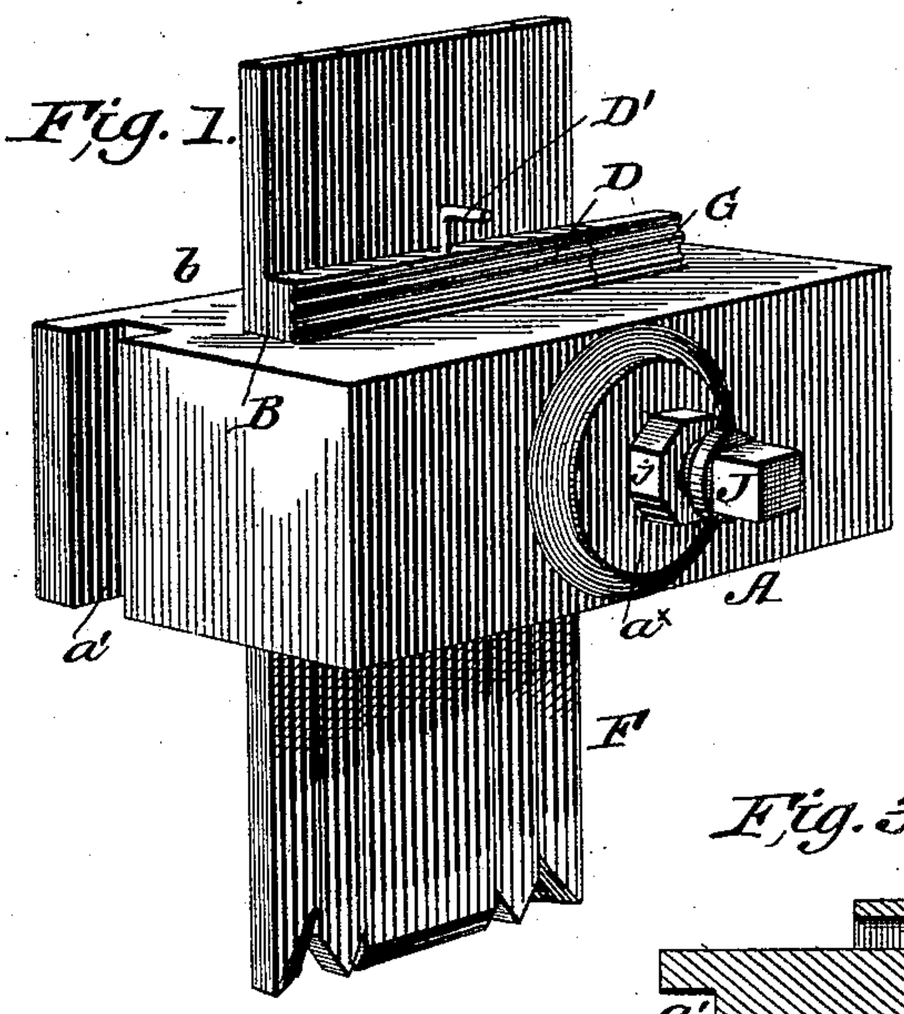


Fig. 2.

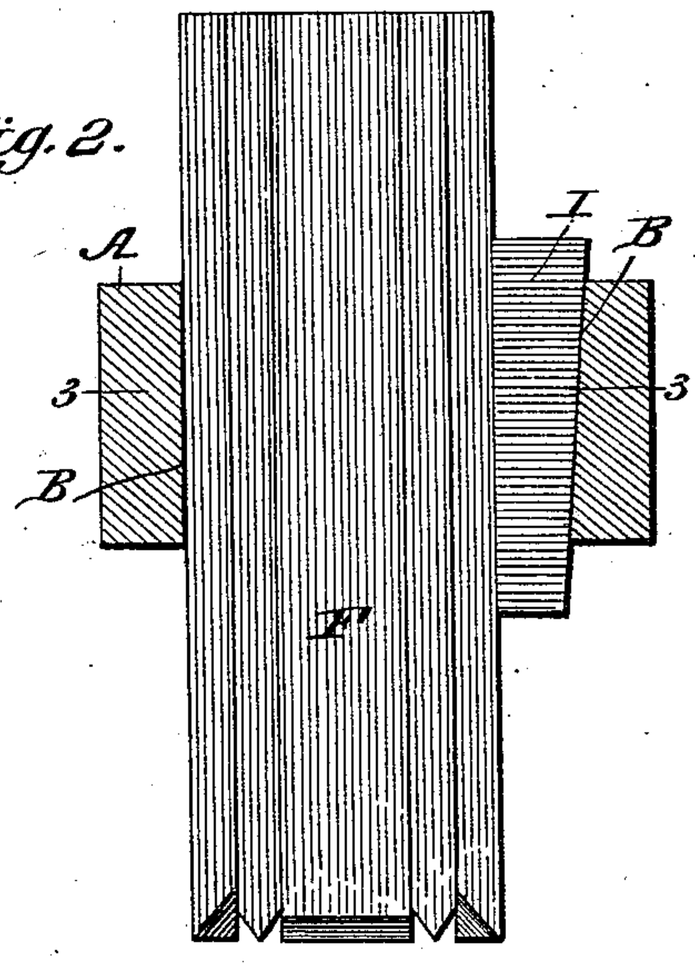


Fig. 3

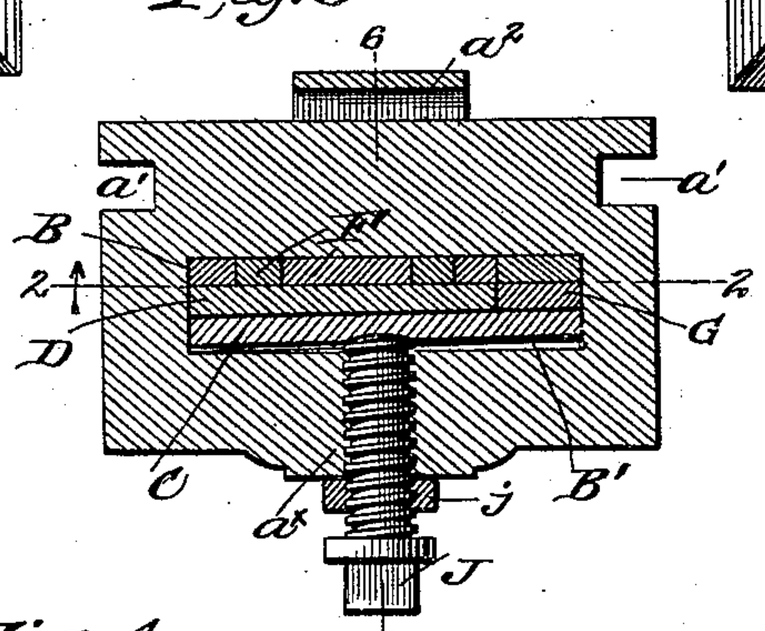


Fig. 4.

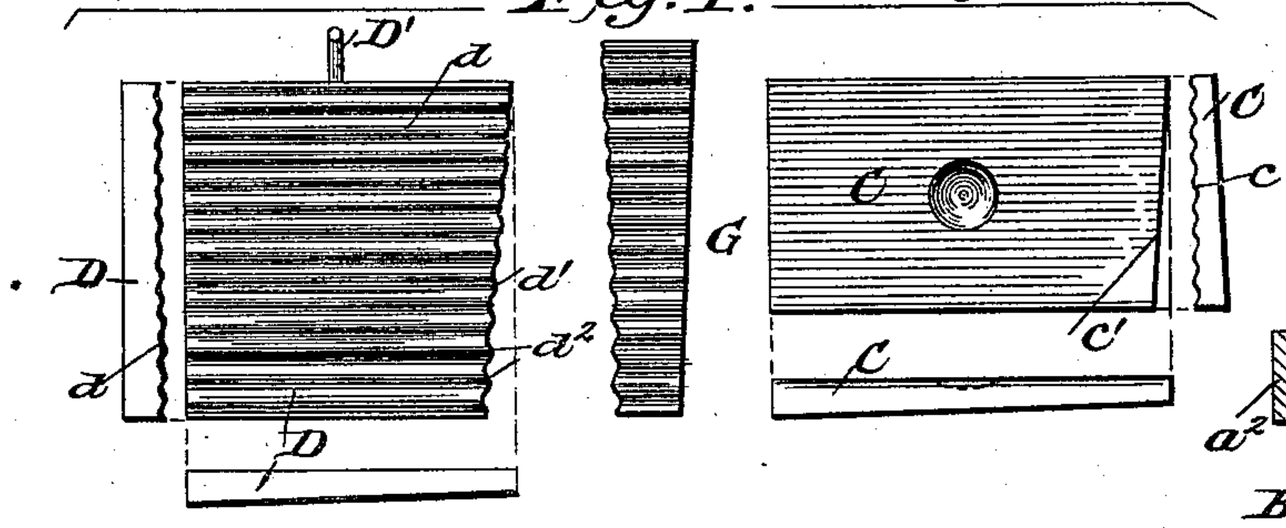


Fig. 6.

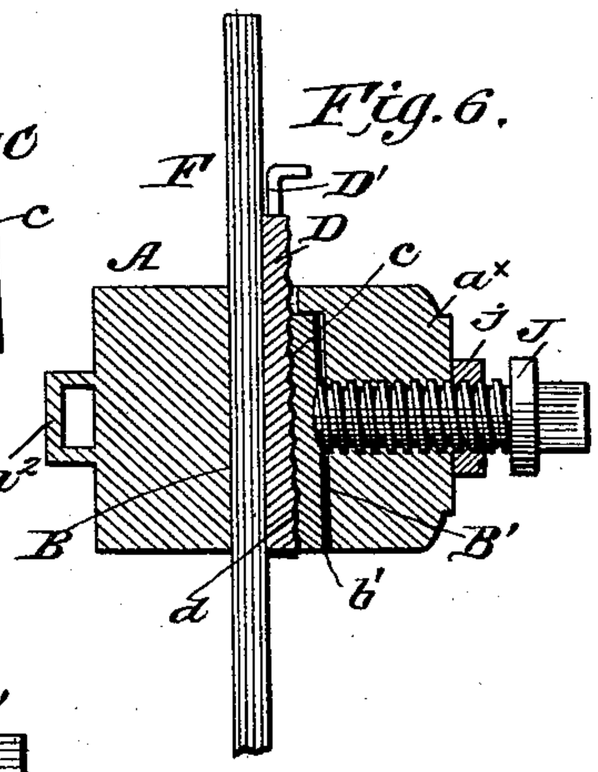
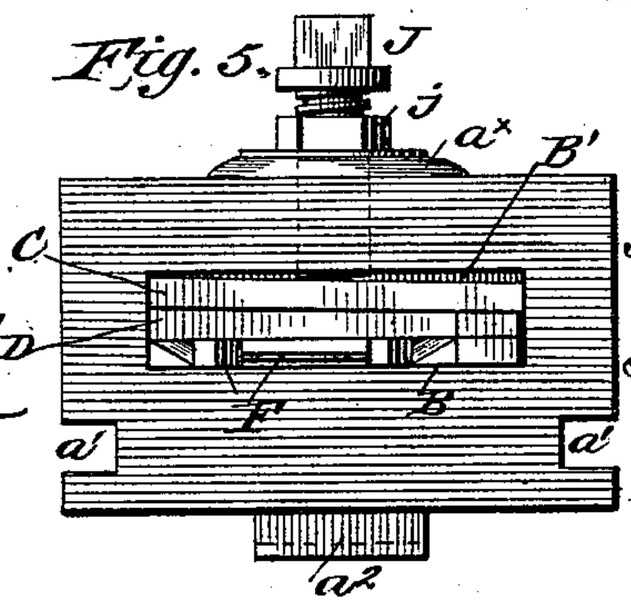


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN FRANKLIN FORSYTH, OF BLOOMINGTON, INDIANA, ASSIGNOR OF ONE-HALF TO CHARLES ROSS, OF SAME PLACE.

DRILL-CLAMP.

SPECIFICATION forming part of Letters Patent No. 536,867, dated April 2, 1895.

Application filed September 21, 1894. Serial No. 523,720. (No model.)

To all whom it may concern:

Be it known that I, JOHN FRANKLIN FORSYTH, residing at Bloomington, in the county of Monroe and State of Indiana, have invented certain new and useful Improvements in Drill-Clamps, of which the following is a specification.

My invention relates to a drill clamp for stone channeling machines, and it has for its object to provide clamp devices simple in construction, and which will effectively serve for their intended purposes.

The invention consists in such peculiar combination and novel arrangement of parts, as will hereinafter be first described and then particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved clamp devices. Fig. 2 is a central longitudinal section taken on the line 2—2 Fig. 3. Fig. 3 is a horizontal section taken on the line 3—3 Fig. 2. Fig. 4 is a detail view illustrating the several clamp and wedge keys. Fig. 5 is a bottom plan view of the clamp head, and Fig. 6 is a cross section on line 6—6 Fig. 3.

Referring to the accompanying drawings A, indicates the clamp head, the rear portion *b* of which has at its ends, grooves *a' a'*, whereby it is fitted to slide on the usual guide frame, it also having on its rear face a loop or eye a^2 whereby it is secured to the reciprocating carrier or arm, in the usual manner.

The head A, has a longitudinal drill receiving slot B, which is formed at its front side with a depression or recess B', the lower end of which is open as at *b'* for a purpose presently explained.

C and D indicate removable clamp plates, formed with a series of horizontal corrugations *c d*, on one face, and such plates taper at one edge from the top as shown at *c'* and *d'*. They also diminish in thickness from end to end, in the practical construction, they being two inches thick at one end and one and five-eighths inches thick at the other end, and on pressure of the binding screw they swing round, the thick end remaining fixed.

It will be noticed by reference to Fig. 2, that one end of the slot B tapers inward, from the top to the bottom, whereby the length of the lower end of the slot way is less than the upper to prevent the clamps falling through. It will also be noticed by reference to Fig. 6, that the side walls of the drill slot, taper from the bottom up, and as the clamps are thicker at the bottom than the top, the impact shock incident, in a continued use of the clamp will serve to more tightly wedge the drills between the clamps.

The clamp C is fitted in the recess B', and is held to bear against the clamp D, which in turn bears against the drills F and holds such drills up against the front face of the slot B and from movement. After the drills have been adjusted and clamped between them, I form the tapered edge of clamp D with corrugations d^2, which are one eighth of an inch deep at the lower end and taper off to nothing at the upper end; and with such edges are adapted to be engaged by a wedge G, corrugated on one face and driven in from the top as shown. By tapering the corrugations on the edge of the clamp D, which has a lift finger D', it can be the more readily lifted from the drill slot, when the wedge held in connection therewith is loosened. By extending the recess B' through the bottom of the head, the clamp C can be the more readily inserted.

E F indicate the drills which are clamped by the plates C and D, they being held from lateral movement by the end wedge I.

At the front, the head A has a screw threaded boss $a^\times$, in which is fitted an adjusting screw J, which in practice is a binding screw, the inner end of which has a bearing portion which bears against the clamp C as most clearly shown in Figs. 3 and 6. The screw J is also provided with a jam nut *j*, which will serve when adjusted to hold the screw to its set position.

From the foregoing description taken in connection with the drawings the advantages of my improvement it is thought will readily appear. It will be noticed the several parts can be readily detached and assembled, are of a simple construction and can be manufactured at a small cost.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. An improved drill holder comprising a

head block, having a slot way straight at one end and tapering inward from the top to the bottom at the other end, and a recess having similarly arranged end walls opening into the slot way, the clamp member C fitting in the said recess and having one end straight and the other tapering whereby it is held from falling through the bottom of the head block, the drills, and the intermediate clamp member D, all arranged substantially as shown and for the purposes described.

2. An improved drill holder comprising a head block having a drill receiving slot tapering downward and inward at one end, the drills held therein, the clamp member D for pressing the said drills against the slot, said clamp member having a tapered edge *d'* the wedge plate G having the face which engages the clamp member, made tapering and the clamp bolt devices all arranged substantially as shown and described.

3. The combination with the head block A, having a longitudinal recess, the clamp plates C and D, having one edge beveled and corrugated, such corrugations diminishing from the lower to the top edge, wedges having corrugated edges held to fit such corrugated edges of the clamp plates, the drills and a binding or clamp screw held on the head block to bear against one of the clamp members, all substantially as shown and described.

4. As an improvement in drill clamps, a head block having a horizontal screw apertured boss on its front face, and a loop or securing member on its rear face, and a longitudinal slot, having its side walls tapered outwardly and downwardly, clamp plates tapering from top to bottom, held to fit the sides of the said slot, and formed with corrugated clamp faces and beveled end portions, wedges fitted between such ends and the head block, the drills, and the binding or clamp screw fitted in the apertured boss and held to bear against one of the said clamp members, all arranged substantially in the manner shown and described.

JOHN FRANKLIN FORSYTH.

Witnesses:
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